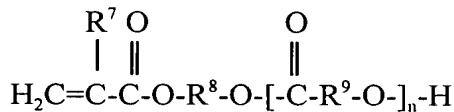


*4*  
--Claim 21. The composition of claim 1 wherein monomer component (b) comprises a compound of the following structure:

*B3*  
*1,0290*



where  $\text{R}^7$  is H or  $\text{CH}_3$ ;

$\text{R}^8$  is an alkylene group having 2 to 6 carbon atoms;

$\text{R}^9$  is an alkylene group having 5 carbon atoms; and

n is 1 to 20. --

In claims 5, 17, and 18, in line 1 of each, please change "4" to -- 21 --.

In claim 15, at the end of the claim, please insert -- pounds per gallon--.

## REMARKS

### *The Rejection Under 35 USC 102*

The rejection of claims 1-8 and 11-20 under 35 USC 102 based on the Meisenburg *et al.* patent ("Meisenburg") is respectfully traversed.

The use of hydroxyl group-containing acrylic polymers to form polyurethane coatings by reaction with polyisocyanates is common in the art. Meisenburg's invention is the use of a carbodiimide and/or polyepoxide in combination with a wide range of hydroxyl functional acrylic polymers. The Meisenburg reference discloses many of the known monomeric components that can be used to synthesize hydroxyl functional acrylic polymers for use in polyurethane coatings and suggests that there are many possible combinations of these monomers. It is well settled that the broad disclosure of many potential combinations does not constitute anticipation of each of the specific combinations that are possible.

The invention as recited in claim 1 here is significantly different from anything specifically disclosed in Meisenburg. First, the reference is solely and specifically directed toward aqueous coating compositions, whereas the present invention involves only organic solvent-borne compositions. Claim 1 has hereby been amended to make this

distinction explicit. Support for the amendment can be found at the top of page 12 of the specification as well as in the examples. This difference precludes citation of 35 USC 102 against claim 1 and the claims dependent thereon.

A second difference can be found in the recitation of the combination of particular types of acrylic monomers that comprise the hydroxyl functional acrylic polymer in claim 1 here. Components (a) and (b) in claim 1 here are both required to be present. Both of these types of monomers are disclosed as being optional in Meisenburg. They are included in the long list of possible monomers that extends through columns 4, 5, 6, and 7 in the reference. There is no disclosure that these two particular types of monomers in particular should be selected and combined with each other. It may be noted that the only specific embodiment of an acrylic polymer in the reference (col. 20, lines 4-11) contains neither of these optional monomers.

Meisenburg simply does not disclose the combination claimed, and this rejection should be withdrawn

#### *The Rejection Under 35 USC 103*

The rejection of claims 1-20 under 35 USC 103 based on Meisenburg in view of Fenn et al. ("Fenn") is respectfully traversed.

The present invention is the discovery of a particular combination of acrylic monomers for synthesizing a hydroxyl function polymer for use in solvent-borne polyurethane coating compositions that are both fast-drying and relatively low in VOC. Aqueous coating compositions such as those in the Meisenburg reference attain low VOC, but the evaporation rate of water is not as great as many organic solvents, so there continues to be a need for organic solvent-borne coatings, particularly in the auto refinishing field. Shortening the time for drying a newly painted automobile surface is a major factor in improving the productivity of a collision repair shop. At the same time, regulatory pressures to reduce organic emissions put restrictions on the fast-drying products that can be used. The present invention surprisingly permits a fast-drying solvent-borne coating composition to be

provided with regulatory compliant VOC levels. Meisenburg has different objectives and its teachings are not relevant to producing a low VOC solvent-borne composition.

Meisenburg's entire disclosure is directed to aqueous coating compositions, and therefore one of ordinary skill in the art would not consider the preferences and species listed in the reference to have any particular bearing on the problem of producing low VOC solvent-borne compositions. In fact, the invention in Meisenburg is not the hydroxyl functional acrylic polymer component, but rather the inclusion of a carbodiimide and/or polyepoxide compounds in the coating combination along with the hydroxyl functional acrylic polymer and a polyisocyanate. The disclosure of the reference regarding the acrylic polymer is broad and general, and as noted above, the catalog of monomers that could optionally be incorporated into Meisenburg's acrylic monomer encompasses four columns of the patent. There is no guidance in either of the cited references to select from this extensive list in Meisenburg the two particular types of monomers that are required to be present in the present invention by the recitations of claim 1 here.

The two particular acrylic monomer types required by claim 1 here are:

- (a) an acrylate or methacrylate in which the esterifying group is the residue of a glycidyl group and includes a branched alkyl group (e.g., the reaction product of acrylic acid and Cardura E); and
- (b) an acrylate or methacrylate in which the esterifying group is a hydroxy ester having one or more ester groups (e.g., the reaction of hydroxyalkyl (meth)acrylate and e-caprolactone).

Both of these types of monomers are disclosed in Meisenburg, but both are disclosed as being optional, and there is no motivation whatsoever provided in the cited references to select both of these optional monomers in combination. The results discovered by applicants for this combination were apparently unknown to Meisenburg. The monomer of (a) above (and in claim 1 here) corresponds to monomer "a5" in Meisenburg at col. 4 lines 23-31, where its inclusion is characterized as "if desired." Further details regarding monomer "a5" are found at col. 6, lines 7-19, but nothing is stated to suggest it is other than one of many optional components. The one example disclosed in Meisenburg (col. 20, lines 4-10) does not include

a monomer corresponding to "a5." The monomer of (b) above (and in claim 1 here) corresponds to one of the many options within Meisenburg's monomer type "a2." Monomer "a2" is any hydroxyl functional unsaturated monomer essentially free from carboxyl groups. In the description of "a2" beginning at col. 4, line 63 and concluding at col. 4, line 37, a wide range of hydroxyalkyl (meth)acrylates are listed, including caprolactone modified hydroxyalkyl acrylates. This portion of the reference states a preference for "a2" monomers of relatively large molecular weight, including the caprolactone modified hydroxyalkyl acrylates. However, at col. 5, lines 22-37, the most preferred type of the larger molecular weight species is not the caprolactone modified type, but rather those derived from trimethylolpropane monoallyl ether. Converse to either of these stated preferences, the sole example in Meisenburg (col. 20) includes only a relatively low molecular weight species of "a2" (hydroxyethyl methacrylate). From this rambling and somewhat inconsistent disclosure in Meisenburg, one of ordinary skill in the art would not receive a suggestion to combine the particular monomer type of (a) with the particular monomer type of (b) as recited in claim 1 here. Accordingly, a *prima facie* case of obviousness has not been established, and the rejection should be withdrawn.

The Fenn patent has been cited in the Office Action only for showing isobornyl acrylates, which are species recited in dependent claims 9 and 10. Fenn does not appear to provide any assistance in overcoming the shortcomings of the obviousness rejection of claim 1 as noted above.

#### *The Rejections Under 35 USC 112*

The Examiner is thanked for pointing out several informalities in the application. The units for VOC in claims 1 and 15 ("pounds per gallon") have been inserted. Support is found in the first paragraph on page 3 of the specification. Applicants apologize for the carelessly depicted (meth)acrylate structure in claim 4 and on page 7 of the specification. These have now been corrected. As noted in the Office Action, the verbal description of the compound in claims 19 and 20 provides support for correcting the structure and indicates the obvious intent.

This application is believed to be in condition for allowance. However, in the event that the Examiner considers there to be any remaining issue, the Examiner is invited to phone the undersigned attorney so that resolution of any such matter may be expedited.

Respectfully submitted,

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